

WHAT IS CLAIMED IS:

1. An IP telephone apparatus for executing a telephone call through a computer network, comprising:

a main unit having a handset;

5 a telephone line connection unit that connects to a telephone network;

an external telephone connection unit being connectable to an external telephone having a handset;

a dialing start command detection unit configured to  
10 detect an IP telephone dialing start command;

an audio signal input/output unit that inputs/outputs an audio signal for conversation when the dialing start command unit detects the IP telephone dialing start command;

a handset validation unit configured to selectively  
15 validate one of the handset of the main unit and the handset of the external telephone;

an audio signal path switching unit that switches a connection target of the handset validated by the handset validation unit from the telephone line connection unit to the  
20 audio signal input/output unit when the dialing start command detection unit detects the IP telephone dialing start command;  
and

a network communication control unit configured to enable the audio signal input/output unit to transmit and receive  
25 the audio signal to and from the network terminal when the dialing

start command detection unit detects the IP telephone dialing start command.

2. The IP telephone apparatus as claimed in claim 1, further  
5 comprising:

a control signal input/output unit being connected to a computer to input/output control signals containing a command for executing an IP telephone dialing;

wherein upon detection of the IP telephone dialing start  
10 command, the IP communication control unit makes the control signal input/output unit output a control signal containing the command to the computer.

3. The IP telephone apparatus as claimed in claim 1, wherein  
15 the external telephone connection unit comprises a radio communication section for communicating with the external telephone by radio.

4. The IP telephone apparatus as claimed in claim 1, wherein  
20 the external telephone connection unit comprises an external machine connection terminal for connecting to the external telephone.

5. The IP telephone apparatus as claimed in claim 1, wherein  
25 the dialing start command detection unit detects the IP telephone

dialing start command based on the presence or absence of an IP dialing command generated within one of the IP telephone apparatus and the external telephone based on operation of a user.

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6. The IP telephone apparatus as claimed in claim 1, wherein the handset validation unit detects an off-hook signal generated from one of the handset of the main unit and the handset of the external telephone and validates the handset corresponding to the detected off-hook signal.

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7. The IP telephone apparatus as claimed in claim 1, further comprising a message transmission unit that sends to the external telephone a guidance message to selectively use one of a general telephone function for telecommunicating by use of the telephone network and an IP telephone function for telecommunicating by use of the computer network, upon reception of an off-hook signal from the external telephone.

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8. The IP telephone apparatus as claimed in claim 7, further comprising a mode setting unit that sets one of a switch mode and a fixed mode, the switch mode for allowing a user to selectively switch between the general telephone function and the IP telephone function, the fixed mode for allowing the user to use either of the general telephone function and the IP

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telephone function exclusively;

wherein the message transmission unit sends the guidance message to the external telephone upon reception of an off-hook signal from the external telephone in the switch mode; and

5        the message transmission unit sends a message to the effect that the fixed mode is set to the external telephone upon reception of an off-hook signal from the external telephone in the fixed mode.

10    9.    The IP telephone apparatus as claimed in claim 7, further comprising: a message notifying unit configured to notify a message to a user; and

      the message transmission unit controls the message notifying unit to notify the guidance message to the user.

15    10.    The IP telephone apparatus as claimed in claim 9, wherein the message notifying unit includes at least one of a display configured to display the message and a loudspeaker configured to output the message.

20    11.    The IP telephone apparatus as claimed in claim 5, wherein the IP telephone command is generated by operating a general telephone function within one of the IP telephone apparatus and the external telephone, the general telephone function for  
25    telecommunicating by use of the telephone network.

12. The IP telephone apparatus as claimed in claim 11, wherein the IP telephone command is input with a predetermined button of one of the IP telephone apparatus and the external telephone.

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13. The IP telephone apparatus as claimed in claim 1, wherein the external telephone comprises a cordless slave terminal of the IP telephone apparatus.

10 14. The IP telephone apparatus as claimed in claim 1, further comprising:

a cordless slave terminal capable of being used as the external telephone.

15 15. An IP telephone system, comprising:

a computer connected to a network terminal via a computer network;

a handset that receives and generates an audio signal for a telephone conversation;

20 a telephone line connection unit connectable to a telephone network;

a computer connection unit connectable to the computer;

an audio signal path switching unit that switches a path of the audio signal to one of the telephone line connection

25 unit and the computer connection unit;

an external telephone connection unit connected to an external telephone having a general telephone function for telecommunicating through a telephone network; and

an IP telephone relay unit configured to receive a  
5 predetermined command from the external telephone through the external telephone connection unit and to make the audio signal path switching unit switch the path to the computer connection unit upon reception of a predetermined command, so that the external telephone can telecommunicate with the network  
10 terminal.

16. The IP telephone system as claimed in claim 15,

wherein the computer outputs a signal for validating the IP telephone relay unit upon reception of a connection request  
15 from the network terminal.

17. The IP telephone system as claimed in claim 15, further comprising a ringing signal output unit configured to output a ringing signal to the external telephone upon reception of  
20 a connection request from the network terminal.

18. The IP telephone system as claimed in claim 15, further comprising:

a mode setting unit configured to set an all calling mode  
25 for sending a ringing signal to the external telephone in

response to a connection request received from each of a calling party on the telephone network and the network terminal, and to set one calling mode for sending a ringing signal to the external telephone only when a connection request is received  
5 from one of a calling party on the telephone network and the network terminal.

19. The IP telephone system as claimed in claim 15, wherein the predetermined command is input with a predetermined button  
10 of the external telephone.

20. An IP telephone apparatus for executing a telephone call through a computer network, comprising:  
a main unit having a handset;  
15 a telephone line connection unit that connects to a telephone network;  
an external telephone connection unit being connectable to an external telephone for executing a telephone call through a telephone network, the external telephone having a handset;  
20 a dialing start command detection unit configured to detect an IP telephone dialing start command;  
an audio signal input/output unit that inputs/outputs an audio signal for conversation when the dialing start command unit detects an IP telephone dialing start command;  
25 a handset validation unit configured to selectively

validates one of the handset of the main unit and the handset of the external telephone;

an audio signal path switching unit that switches a connection target of the handset validated by the handset validation unit from the telephone line connection unit to the audio signal input/output unit when the dialing start command detection unit detects the IP telephone dialing start command; and

a network communication control unit configured to enable the audio signal input/output unit to transmit and receive the audio signal to and from the network terminal when the dialing start command detection unit detects the IP telephone dialing start command.

21. The IP telephone apparatus as claimed in claim 20; further comprising:

a control signal input/output unit being connected to a computer to input/output control signals containing an IP telephone dialing start command;

wherein upon detection of the IP telephone dialing start command, the IP communication control unit makes the control signal input/output unit output a control signal for executing an IP telephone dialing to the computer.

22. The IP telephone apparatus as claimed in claim 20, wherein



the external telephone connection unit comprises a radio communication section for communicating with the external telephone by radio.

5 23. The IP telephone apparatus as claimed in claim 20, wherein the external telephone connection unit comprises an external machine connection terminal for connecting to the external telephone.

10 24. The IP telephone apparatus as claimed in claim 20, wherein the dialing start command detection unit detects the IP telephone dialing start command based on the presence or absence of an IP dialing command generated within one the IP telephone apparatus and the external telephone based on operation of a  
15 user.

25. The IP telephone apparatus as claimed in claim 20, wherein the handset validation unit detects an off-hook signal being generated from one of the handset of the main unit and the handset  
20 of the external telephone and validates the handset corresponding to the detected off-hook signal.

26. The IP telephone apparatus as claimed in claim 20, further comprising:

25 a message transmission unit that sends to the external

telephone a guidance message to selectively use one of a general telephone function for telecommunicating by use of the telephone network and an IP telephone function for telecommunicating by use of the computer network, upon reception of an off-hook signal  
5 from the external telephone.

27. The IP telephone apparatus as claimed in claim 26, further comprising:

a mode setting unit configured to set a switch mode or  
10 a fixed mode, the switch mode for allowing a user to selectively switch between the general telephone function and the IP telephone function, the fixed mode for allowing the user to use one of the general telephone function and the IP telephone function exclusively;

15 wherein the message transmission unit sends the guidance message to the external telephone upon reception of an off-hook signal from the external telephone in the switch mode; and

the message transmission unit sends a message to the effect that the fixed mode is set to the external telephone upon  
20 reception of an off-hook signal from the external telephone in the fixed mode.

28. The IP telephone apparatus as claimed in claim 26, further comprising: a message notifying unit configured to notify a  
25 message to a user; and

the message transmission unit controls the message notifying unit to notify the guidance message to the user.

29. The IP telephone apparatus as claimed in claim 28, wherein  
5 the message notifying unit includes at least one of a display configured to display the message and a loudspeaker configured to output the message.

30. The IP telephone apparatus as claimed in claim 24, wherein  
10 the IP telephone command is generated by operating a general telephone function within one of the IP telephone apparatus and the external telephone, the general telephone function for telecommunicating by use of the telephone network.

15 31. The IP telephone apparatus as claimed in claim 30, wherein the IP telephone command is input with a predetermined button of one of the IP telephone apparatus and the external telephone.

32. An IP telephone apparatus, comprising:  
20 a main unit having a handset;  
an external telephone connection unit being connectable to an external telephone having a handset;  
a telephone line connection unit being connectable to a telephone network;  
25 a network connection unit being connectable to a computer

network;

an IP command generating unit configured to generate an IP telephone command for executing an IP telephone call;

5 a handset validation unit configured to selectively validate one of the handset of the main unit and the handset of the external telephone; and

an audio signal path switching unit that switches a connection target of the handset validated by the handset validation unit from the telephone line connection unit to the  
10 network connection unit upon detection of the IP telephone command.